



## SEQUENCE LISTING

<110> Bulla, Lee  
Candas, Mehmet

<120> Pectinophora gossypiella (Pink Bollworm) Bacillus  
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<130> 52418-20003.00

<140> US 09/696,115  
<141> 2000-10-24

<150> US 60/161,564  
<151> 1999-10-26

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<170> PatentIn version 3.0

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Glu	Phe	Lys	Thr	Asp	Lys	Pro	Glu	Asp	Ile	Val	Ala	Thr	His	Asn	Asn		
			1685				1690						1695				
Asn	Phe	Gly	Phe	Lys	Ser	Thr	Pro	Phe	Ser	Pro	Glu	Phe	Ala	Asn	Gln		
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Phe	Gln	Lys															
		1715															

<210> 18

<211> 1717

<212> PRT

<213> Tobacco hornworm

<400> 18

Met	Ala	Val	Asp	Val	Arg	Ile	Ala	Ala	Phe	Leu	Leu	Val	Phe	Ile	Ala		
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Arg	Leu	Pro	Arg	Pro	Asp	Asn	Leu	Pro	Val	Leu	Asn	Phe	Glu	Gly	Gln		
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Thr	Trp	Ser	Gln	Arg	Pro	Leu	Leu	Pro	Ala	Pro	Glu	Arg	Asp	Asp	Leu		
	50					55					60						



Cys	Met	Asp	Ala	Tyr	His	Val	Ile	Thr	Ala	Asn	Leu	Gly	Thr	Gln	Val	65	70	75	80
Ile	Tyr	Met	Asp	Glu	Glu	Ile	Glu	Asp	Glu	Ile	Thr	Ile	Ala	Ile	Leu	85	90	95	
Asn	Tyr	Asn	Gly	Pro	Ser	Thr	Pro	Phe	Ile	Glu	Leu	Pro	Phe	Leu	Ser	100	105	110	
Gly	Ser	Tyr	Asn	Leu	Leu	Met	Pro	Val	Ile	Arg	Arg	Val	Asp	Asn	Gly	115	120	125	
Glu	Trp	His	Leu	Ile	Ile	Thr	Gln	Arg	Gln	His	Tyr	Glu	Leu	Pro	Gly	130	135	140	
Met	Gln	Gln	Tyr	Met	Phe	Asn	Val	Arg	Val	Asp	Gly	Gln	Ser	Leu	Val	145	150	155	160
Ala	Gly	Val	Ser	Leu	Ala	Ile	Val	Asn	Ile	Asp	Asp	Asn	Ala	Pro	Ile	165	170	175	
Ile	Gln	Asn	Phe	Glu	Pro	Cys	Arg	Val	Pro	Glu	Leu	Gly	Glu	Pro	Gly	180	185	190	
Leu	Thr	Glu	Cys	Thr	Tyr	Gln	Val	Ser	Asp	Ala	Asp	Gly	Arg	Ile	Ser	195	200	205	
Thr	Glu	Phe	Met	Thr	Phe	Arg	Ile	Asp	Ser	Val	Arg	Gly	Asp	Glu	Glu	210	215	220	
Thr	Phe	Tyr	Ile	Glu	Arg	Thr	Asn	Ile	Pro	Asn	Gln	Trp	Met	Trp	Leu	225	230	235	240
Asn	Met	Thr	Ile	Gly	Val	Asn	Thr	Ser	Leu	Asn	Phe	Val	Thr	Ser	Pro	245	250	255	
Leu	His	Ile	Phe	Ser	Val	Thr	Ala	Leu	Asp	Ser	Leu	Pro	Asn	Thr	His	260	265	270	
Thr	Val	Thr	Met	Met	Val	Gln	Val	Ala	Asn	Val	Asn	Ser	Arg	Pro	Pro	275	280	285	
Arg	Trp	Leu	Glu	Ile	Phe	Ala	Val	Gln	Gln	Phe	Glu	Glu	Lys	Ser	Tyr	290	295	300	
Gln	Asn	Phe	Thr	Val	Arg	Ala	Ile	Asp	Gly	Asp	Thr	Glu	Ile	Asn	Met	305	310	315	320
Pro	Ile	Asn	Tyr	Arg	Leu	Ile	Thr	Asn	Glu	Glu	Asp	Thr	Phe	Phe	Ser	325	330	335	
Ile	Glu	Ala	Leu	Pro	Gly	Gly	Lys	Ser	Gly	Ala	Val	Phe	Leu	Val	Ser	340	345	350	
Pro	Ile	Asp	Arg	Asp	Thr	Leu	Gln	Arg	Glu	Val	Phe	Pro	Leu	Thr	Ile	355	360	365	
Val	Ala	Tyr	Lys	Tyr	Asp	Glu	Glu	Ala	Phe	Ser	Thr	Ser	Thr	Asn	Val	370	375	380	
Val	Ile	Ile	Val	Thr	Asp	Ile	Asn	Asp	Gln	Arg	Pro	Glu	Pro	Ile	His	385	390	395	400
Lys	Glu	Tyr	Arg	Leu	Ala	Ile	Met	Glu	Glu	Thr	Pro	Leu	Thr	Leu	Asn	405	410	415	
Phe	Asp	Lys	Glu	Phe	Gly	Phe	His	Asp	Lys	Asp	Leu	Gly	Gln	Asn	Ala	420	425	430	
Gln	Tyr	Thr	Val	Arg	Leu	Glu	Ser	Val	Asp	Pro	Pro	Gly	Ala	Ala	Glu	435	440	445	
Ala	Phe	Tyr	Ile	Ala	Pro	Glu	Val	Gly	Tyr	Gln	Arg	Gln	Thr	Phe	Ile	450	455	460	
Met	Gly	Thr	Leu	Asn	His	Ser	Met	Leu	Asp	Tyr	Glu	Val	Pro	Glu	Phe	465	470	475	480
Gln	Ser	Ile	Thr	Ile	Arg	Val	Val	Ala	Thr	Asp	Asn	Asn	Asp	Thr	Arg	485	490	495	
His	Val	Gly	Val	Ala	Leu	Val	His	Ile	Asp	Leu	Ile	Asn	Trp	Asn	Asp	500	505	510	
Glu	Gln	Pro	Ile	Phe	Glu	His	Ala	Val	Gln	Thr	Val	Thr	Phe	Asp	Glu	515	520	525	
Thr	Glu	Gly	Glu	Gly	Phe	Phe	Val	Ala	Lys	Ala	Val	Ala	His	Asp	Arg	530	535	540	
Asp	Ile	Gly	Asp	Val	Val	Glu	His	Thr	Leu	Leu	Gly	Asn	Ala	Val	Asn				

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Phe	Leu	Thr	Ile	Asp	Lys	Leu	Thr	Gly	Asp	Ile	Arg	Val	Ser	Ala
				565					570					575
Asp	Ser	Phe	Asn	Tyr	His	Arg	Glu	Ser	Glu	Leu	Phe	Val	Gln	Val
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Ala	Thr	Asp	Thr	Leu	Gly	Glu	Pro	Phe	His	Thr	Ala	Thr	Ser	Gln
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Val	Ile	Arg	Leu	Asn	Asp	Ile	Asn	Asn	Thr	Pro	Pro	Thr	Leu	Arg
	610					615					620			
Pro	Arg	Gly	Ser	Pro	Gln	Val	Glu	Glu	Asn	Val	Pro	Asp	Gly	His
	625				630					635				640
Ile	Thr	Gln	Glu	Leu	Arg	Ala	Thr	Asp	Pro	Asp	Thr	Thr	Ala	Asp
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Arg	Phe	Glu	Ile	Asn	Trp	Asp	Thr	Ser	Phe	Ala	Thr	Lys	Gln	Gly
			660					665					670	
Gln	Ala	Asn	Pro	Asp	Glu	Phe	Arg	Asn	Cys	Val	Glu	Ile	Glu	Thr
		675					680					685		
Phe	Pro	Glu	Ile	Asn	Asn	Arg	Gly	Leu	Ala	Ile	Gly	Arg	Val	Val
	690					695					700			
Arg	Glu	Ile	Arg	His	Asn	Val	Thr	Ile	Asp	Tyr	Glu	Glu	Phe	Glu
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Leu	Ser	Leu	Thr	Val	Arg	Val	Arg	Asp	Leu	Asn	Thr	Val	Tyr	Gly
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Asp	Tyr	Asp	Glu	Ser	Met	Leu	Thr	Ile	Thr	Ile	Ile	Asp	Met	Asn
			740					745					750	
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		755					760					765		
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	770					775					780			
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	785				790				795					800
Arg	Glu	Asp	Thr	Asp	Lys	Asp	Leu	Ile	Met	Ile	Asp	Phe	Leu	Thr
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Gln	Ile	Ser	Val	Asn	Thr	Ser	Gly	Ala	Ile	Asp	Ala	Asp	Thr	Pro
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Arg	Phe	His	Leu	Tyr	Tyr	Thr	Val	Val	Ala	Ser	Asp	Arg	Cys	Ser
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Glu	Asp	Pro	Ala	Asp	Cys	Pro	Pro	Asp	Pro	Thr	Tyr	Trp	Glu	Thr
	850					855					860			
Gly	Asn	Ile	Thr	Ile	His	Ile	Thr	Asp	Thr	Asn	Asn	Lys	Val	Pro
	865				870				875					880
Ala	Glu	Thr	Thr	Lys	Phe	Asp	Thr	Val	Val	Tyr	Ile	Tyr	Glu	Asn
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Thr	His	Leu	Asp	Glu	Val	Val	Thr	Leu	Ile	Ala	Ser	Asp	Leu	Asp
			900					905					910	
Asp	Glu	Ile	Tyr	His	Thr	Val	Ser	Tyr	Val	Ile	Ile	Asn	Tyr	Ala
		915					920					925		
Asn	Pro	Arg	Leu	Met	Asn	Phe	Phe	Ser	Val	Asn	Arg	Glu	Thr	Gly
		930				935					940			
Val	Tyr	Val	Asp	Tyr	Glu	Thr	Gln	Gly	Ser	Gly	Glu	Val	Leu	Asp
	945				950					955				960
Asp	Gly	Asp	Glu	Pro	Thr	His	Arg	Ile	Phe	Phe	Asn	Leu	Ile	Asp
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Phe	Met	Gly	Glu	Gly	Glu	Gly	Asn	Arg	Asn	Gln	Asn	Asp	Thr	Glu
			980				985						990	
Leu	Val	Ile	Leu	Leu	Asp	Val	Asn	Asp	Asn	Ala	Pro	Glu	Leu	Pro
		995				1000					1005			
Pro	Ser	Glu	Leu	Ser	Trp	Thr	Ile	Ser	Glu	Asn	Leu	Lys	Gln	Gly
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Arg	Leu	Glu	Pro	His	Ile	Phe	Ala	Pro	Asp	Arg	Asp	Glu	Pro	Asp
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Asp	Asn	Ser	Arg	Val	Gly	Tyr	Glu	Ile	Leu	Asn	Leu	Ser	Thr	Glu	Arg	
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Thr	Gly	Glu	Leu	Glu	Thr	Ala	Met	Asp	Leu	Lys	Gly	Tyr	Trp	Gly	Thr	
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Tyr	Ala	Ile	His	Ile	Arg	Ala	Phe	Asp	His	Gly	Ile	Pro	Gln	Met	Ser	
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Glu	Arg	Ala	Val	Ile	Asn	Gly	Val	Leu	Ala	Thr	Val	Asn	Gly	Glu	Phe	
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Val	Thr	Phe	Gln	Val	Val	Gly	Asp	Glu	Glu	Ser	Gln	Arg	Tyr	Phe	Gln	
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Ala	Val	Ala	Phe	Ile	Glu	Lys	Ser	Ala	Gly	Met	Glu	Glu	Ser	His	Gln	
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Thr	Val	Arg	Glu	Ala	Asp	Pro	Arg	Pro	Val	Phe	Val	Arg	Glu	Leu	Tyr	
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Tyr	Asp	Thr	Met	Val	Val	Asp	Pro	Ser	Leu	Glu	Ala	Val	Arg	Gln	Ser	
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Ala	Phe	Val	Leu	Asn	Ala	Gln	Thr	Gly	Val	Leu	Thr	Leu	Asn	Ile	Gln	
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Ser	Ser	Gln	Asn	Arg	Val	Tyr	Phe	Val	Phe	Val	Asn	Thr	Leu	Gln	Gln	
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